These occurrences Fournier has divided into headache, disturbances of sleep, neuralgias, affections of sensation, general neuroses, neuroses of the great sympathetic, and visceral neuroses. The headaches are not any more frequent in females than in males. The disturbance of sleep occur as a symptom of secondary syphilis very frequently in women, and are independent of any pain or headache: it is an essential insomnia without any recognizable cause. In some patients all symptoms of neurasthenia occur, and are then only relieved by antiluetic remedies. Neuralgias are more frequent in females, and differ from ordinary neuralgias in the pain being more neuralgiform than neuralgic. They appear in three types—fascial, very frequent; intercostal and sciatic, less frequent. In the fascial form the infraorbital branch is most frequently affected, in the sciatic also, only a single branch is involved. The diagnosis is of importance, but not always easy. The disorders of sensation which occur as a result of syphilis are not generally known, and are often confounded with symptoms of hysteria. The occurrence of analgesia, anæsthesia, and loss of temperature sense is referred to, and their duration said to be very long, from several to fifteen months. G. W. J.

THERAPEUTICS OF THE NERVOUS SYSTEM.

TREATMENT OF NERVOUS AND MENTAL DISEASES BY SYSTEMATIZED ACTIVE EXERCISE.

While massage and electricity have received a large share of attention from neurologists, these have neglected too much the use of medical gymnastics, particularly systematized active exercise. In a large number of nervous and mental cases, the improvement of general nutrition is the one thing needed to bring about relief or cure. To this end a most effective aid is found in systematized active exercise. The movements may be classed as passive, duplicated active (operator and patient both taking part,) and active exercises. Treatment should be carefully individu-

alized. It is usually necessary to combine respiratory with muscular movements. "On the two powers, muscular and respiratory, depend the ability to perform all bodily exercises" (Maclaren). Inherent nervous power has also something to do with the capacity to perform bodily exercise. Want of respiratory power is certainly either at the root or is an essential constituent of many morbid nervous conditions. Often when of apparently equal muscular ability, there will exist in different pessons marked difference. of respiratory power. Inspiratory exercises insure further muscular development, greater æration of the blood, and increased control over nervous and muscular effort.

For gout and lithæmia, to promote excretion and nutrition ; for anæsnia and spanæmia, to assist assimilation and further oxidation ; for headache, sleeplessness, and nervous irritability, to soothe and calm the nervous system ; to aid elimination in cases of lead, arsenic, mercurial, and other metalic or toxic diseases ; for diabetes, to favor activity of the skin and increase combustion, systematized active exercises have a value which cannot be too highly extolled. Also in curable ataxias, as in those which follow diptheretic or exanthematous diseases and in the hysterical varieties, systematized active movements, the patient lying down at first, then sitting, then standing, have proved of great service. The advantage of any treatment that involves specific direction and the adroit calling out of the volition of a patient must be evident to any one who has had experience with hysteria in its manifold forms. Whatever view may be taken of the much mooted question of neurasthenia, without doubt both respiratory and muscular power are often deficient, and the nerve centres themselves can be strengthened by exercising these two powers. Those forms of nervous palpitation which are dependent upon a neurasthenic condition, associated or not with digestive disorder, are greatly benefited by systematized movements. Special forms of gymnastics have been employed with advantage for the treatment of chorea. Napoleon Laisné,* a French professor of gymnastics, and evidently an earnest and en-

*Applications de la Gymnastique a la Guerison de quelques Maladies. Paris, 1865.

thusiastic worker in his chosen field, under the direction of Dr. Blache and other physicians of Paris, has used gymnastics largely both for chorea and other convulsive disorders. In 1865 he published a book in which his methods are set forth. Both Schreiber and Dujardin-Beaumetz refer to his labors and successes. His method in mild cases, as described by Schreiber, is to place the child before him, steadying it between his knees, and then take its hands in his and perform rhythmic movements with each arm, keeping time by counting, or, better still, singing out loudly—"one," "two," "three," etc. The child, at the same time, is also urged to keep time with the movements, and not to make them irregularly.

"Care must be taken in the beginning to prevent, as much as possible, the coincidence of involuntary movements with the rhythmic ones. When the arms have been exercised, similar movements are undertaken with the legs. From time to time, a pause for rest is made, during which the limb must be held firmly enough to prevent the occurrence of involuntary motions. The child is then laid on its back upon an inclined ladder, the feet being held by an assistant; then grasping a rung above its head, it holds on in that position as long as it is able. This is to be repeated several times, and to be followed by a short rest. Afterward, the shoulders, back, and legs are rubbed and gently kneaded."

Lengthy details of treatment will be found in Schreiber's Manual of treatment by massage and methodical muscle exercise (translated by Walter Mendelsohn, of New York).

In patients suffering from multiple neuritis, or some curable forms of myelitis, advantage should be taken of the first signs of motor improvement to begin with active exercises, while the use of electricity and massage is continued. The particular point upon which I desire to insist, is that the attempt to join the will of the patient to the long unused muscles, shall not be deferred a moment longer than is necessary.

In the treatment of various forms of paralysis, that systematized active movements may be employed with advan-

tage has long been known. Even in paralysis from organic brain disease, a clear method of using gymnastic treatment will be found to serve an excellent purpose. Such paralysis is usually the result of hemorrhage, embolism, thrombosis, tumor, abscess, or depressed fracture; less frequently of meningitis or cerebritis, of atrophy or arrested development, and still more rarely of uræmia. Sometimes in cases of sudden lesion, as hemorrhage or embolism, the assault upon the nervous system is so violent, or the destruction is so great, that death results quickly, or the patient is reduced to a state of helplessness, for which, practically, nothing can be done. In many cases, however, soon after the attack, or even at a later period, the amount of palsy is disproportionate to the cerebral lesion by which it has been initiated. Many cases of monoplegia and hemiplegia illustrate this truth. Little by little some of these patients regain muscular power to such an extent as almost to induce the belief that they will get entirely well; indeed, in some cases of hemorrhage, tumor, traumatism, syphilitic meningitis, and uræmia, complete or almost complete recovery does not occur. We should, therefore, not disregard entirely the treatment of such patients.

A method of gymnastic treatment which I have often employed with benefit in cases of monoplegia and hemiplegia, is to cause the patient, first, to make a movement upon the unaffected side, and then instantly to perform the same movement with the paralyzed member, following this quickly with an attempt to do the same thing with both limbs. It is surprising the curious results that will sometimes be obtained in this way, if the leg is but little affected, and the patient can stand while these movements are performed by the upper extremities. To exercise the legs, the patient, of course, should be placed in an easy position, and one that will allow the movements to be performed with the greatest convenience. Exercises of this kind probably have some effect in bringing the paralyzed side of the body under control of the uninjured side of the brain through comissural channels in the spinal cord.

For some of the arthritic neuroses, and for rheumatic

neuritis, or muscular rheumatism, these exercises are of undoubted value. I have seen three cases of a form of rheumatic neuritis affecting the deltoid and adjoining muscles, in which the progress to complete recovery was much assisted by an early resort to dumb-bell exercises and pulley-weights. Cases of this kind are best treated by using large doses of oil of gaultheria, or sodium salicylate, with hypodermic injections of morphia in the most acute stages; a little later resorting to massage, electricity, or both; and then to exercise with light dumb-bells or pulley-weights. Here, again, the point I wish to impress is, that such active exercise should not be deferred too long.

For the group of diseases which fall to the lot of both the neurologist and the orthopædist, cases of curvature, deformity, atrophy, etc., systematized active exercises have long been used by the best authorsties.

In the treatment of ataxic affections, even sometimes when dependant upon organic diseases of the cerebro-spinal axis, the use of what may be called balancing or acrobatic gymnastics is of some value. Dr. Mortimer Granville, in the *Practitioner* for 1881, and subsequent to his monograph on "Nerve Vibration and Excitation," discusses a method for the regeneration of the nerve elements by exercise on the basis of the law of development through function, holding that the ataxic subject is reduced by dissolution to the postion of a child just learning to stand or walk. His plan is to direct the patient to stand with his eyes closed in his bath, after pouring a small can of water down his spine, or applying a mustard poultice over the full length of the spine for ten minutes or a quarter of an hour, and, as his state improves, for half an hour every morning. He is to be furnished with a chair or rail at hand, to which he can cling in case of need, but is instructed to avoid using it except when in danger of falling The exercise must be continued diligently for weeks before success can be obtained.

Dr. Chas. Fayette Taylor, who published as early as 1861, *The Theory and Practice of the Movement Cure*, thus speaks of the combination of rest and exercise.

"The true remedy," he says "is rest and exercise. Let the rest be complete relaxation of all muscular effort—not the entertaining of company, sitting bolt upright, so that the spinal muscles must be constantly acting, or reclining in a 'graceful' attitude on a lounge, with a book in hand, but a completely sustained position, when all the muscles must cease to act. Then the exersises to follow should be short, varied, and taken with some vigor."

The now generally accepted views with reference to cerebral localization throw some light upon the manner in which systematized active exercises, or other forms of gymnastic treatment, improve, or repair the nervous system, and especially the brain. This fact has not been overlooked by authorities in neurology and gymnastics, as by Emil Du Bois-Reymond, Schreiber, Crichton-Brown, and others. In the brain are represented both a differentiation and an integration or solidarity of function. Centres for speech, for vocalization, for particular movements, for the special senses, for the muscular sense, for organic sensations, for some of the higher faculties, as of attention and inhibition, are now, with reason, claimed to have been isolated. For the localization of some or these, as of speech, motor, and some of the sensory centres, the facts and arguments are practically incontrovertible. In the plainest of terms, if brain centres which determine certain movements exist, the performance of these movements must develop and train not only muscles concerned in these actions, but the cerebral centres with which they are connected.—CHARLES K. MILLS, M. D., in the *Maryland Medical Journal*, Feb. 11, and 18, 1888.

L. F. B.